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Theorizing competition: an interdisciplinary framework

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Theorizing competition: an interdisciplinary framework

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Abstract

This paper introduces a framework to facilitate an interdisciplinary analysis of ‘competition’. While such an interdisciplinary analysis can be justified by referencing the various fields of social and economic life in which ‘competition’ is important, three challenges are found to aggravate such endeavor. To mitigate these challenges, and to explicate the often implicit meta-theoretical assumption in the scope, methodological and normative dimension, a meta-theoretical framework is proposed. Its usefulness is illustrated via a comparative description of selected contributions from the social sciences and humanities. Despite its limited scope, it yields some preliminary conjectures that may inspire future research: first, there are sufficient common elements across different concepts of competition that justify an interdisciplinary approach to study competition; second, apart from differences between disciplines, there are remarkable differences within disciplines that are at least of similar importance. Finally, there are important interdependencies between the meta-theoretical dimensions considered in the framework.

Keywords: competition, interdisciplinarity, methodology of the social sciences and humanities

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1 Introduction

Competition is becoming more and more relevant in various fields of economic, political, and social life (Hartmann and Kjaer, 2015). Not only is it applied as a central principle of economic coordination, but has also gained in importance for the relationship between nation-states (Werron, 2012; Kapeller *et al.*, 2019), as a policy tool (Kjaer, 2015), for the funding of academic work (Tauschek, 2013; Wetzel, 2013), in the field of entertainment (Tauschek, 2012, 2013), or even in love relationships (Wetzel, 2013). Some scholars trace the growing relevance of competition to the middle or end of the 20th century and consider it as a characteristic feature of the governmental rationality of neoliberalism (Foucault, 2010), as an element of the economization of the social (Jessop, 2012; Schimank and Volkmann, 2012), as an example of the performativity of economics (Callon, 1998; Mackenzie *et al.*, 2008), or as a consequence of the political power of economic ideas (Mirowski and Plehwe, 2009; Pühringer, 2018). Others argue that competition has already been a core principle of social organization much earlier (Simmel, 1995 [1903]; Nullmeier, 2002; Werron, 2015). Irrespective of this discussion about timing, the multitude of fields in which competition is an empirically relevant factor today makes it an attractive subject of investigation for a variety of disciplines.

In economics, competition has been a central concept and object of study ever since its formation as an academic discipline. Already in the middle of the 19th century, John Stuart Mill stated that “only through the principle of competition has political economy any pretension to the character of a science” (Mill, 1909 [1848], p. 191). Over the years, economists such as Adam Smith, David Ricardo, Karl Marx, Leon Walras, Joseph Schumpeter, Joan Robinson, Friedrich von Hayek, or Gerard Debreu have sketched out different theories and conceptualizations of competition, all of which come with distinct implications, e.g. regarding its character as static or dynamic, regarding the adequate methods to investigate it, or regarding its positive or negative normative connotation. The role of competition as a central concept, in any case, has remained uncontested until today (Backhouse, 1990; Shaikh, 2016; Gane, 2019).

In other social sciences and humanities, competition has become a central topic only in the more recent past, yet early theories of competition can be traced back to

the beginning of the 20th century: At a time when sociology began to form as a discipline of its own, competition was explicitly addressed by Georg Simmel (1995 [1903]) as one of the key principles of the organization of modern society. Max Weber (1978 [1922]) or Karl Polanyi (Polanyi, 2011 [1957]) who both were trained in economics as well as sociology respectively anthropology, implicitly dealt with competition in their work on the relationship between the social and the economic realm. This work gave rise to the fields of economic sociology and economic anthropology (Smelser and Swedberg, 2005; Wilk and Cliggett, 2007; Granovetter and Swedberg, 2011). In the more recent past, competition also gets regularly addressed in sociology, anthropology, and political science (Hartmann and Kjaer, 2015), as well as business and management studies (e.g. Barney, 1991; on the topic of ‘coopetition’ see e.g. Bouncken *et al.*, 2015).

The fact that competition has not only become a relevant phenomenon in various fields of life but also an important topic in several disciplines calls for an interdisciplinary approach to its investigation. Such an approach, however, gets aggravated by the many different notions of, and methodological approaches to the study of competition. Thus, attempts to sketch out the intellectual history of the term across various disciplines have, so far, been rather scarce: Werron (2015) takes a comparative perspective on the study of competition in different disciplines since the 18th century, and Gane (2019) outlines four key conceptions of competition since the 19th century, taking into account economic, socio-biological and sociological positions. Both present similarities and differences between the concepts with a focus on the normative dimension, yet they abstain from a discussion of these along conceptual analytical lines. Jessop (2015) points to differences in the understanding of competition in different contexts, yet with an exclusive focus on the economic and the political field and an interest in the actual realization of certain concepts of competition in terms of an economization of societal organization.

The present paper aspires to facilitate an interdisciplinary approach to competition in a different manner: in a first, diagnostic, step we identify three challenges that aggravate any interdisciplinary approach to competition; in a second, solution-oriented, step, we address these challenges explicitly by introducing a meta-theoretical framework geared towards the interdisciplinary

comparison and triangulation of different concepts of competition. The three challenges we diagnose are the following:

1. The *challenge of scope*, which refers to the generality of the concept and the fact that contributions differ with regard to the competing *actors* ('competition among whom?') and the *object* of competition ('competition for what?').
2. The *challenge of methodology*, which exists because different scientific disciplines study competition with distinct methods and epistemological orientations (i.e. receipts for how knowledge about the object of interest can be gained, and requirements an adequate analysis must meet).
3. The *challenge of normativity*, which refers to the fact that debates about competition have been closely linked to controversial political debates. Many academics dealing with competition were actively involved in these debates, while others claim to represent descriptive accounts of how competition works.

With regard to all three challenges, it is important to explicate the often implicit assumptions on *scope*, *methodology*, and *normativity* that are inherent in any approach to study competition. Only then a triangulation of concepts of competition across disciplines can be successful. The key contribution of the present paper is, therefore, the introduction of an analytical framework that addresses the three challenges and can serve as a blueprint for an interdisciplinary comparison and integration.

To achieve this aim, we proceed as follows: section 2 introduces the analytical framework, the usefulness of which will be illustrated in section 3, where a selection of theoretical concepts will be presented in a comparative manner. Section 4 reflects on how the categories of the framework are connected to each other and how approaches to study competition differ among and

within disciplines. Section 5 concludes and outlines avenues for future research.

2 An analytical framework for tracing the intellectual history of competition

This section introduces an analytical framework that addresses the three challenges introduced above. It comprises three blueprints for the classification of concepts of competition according to their *scope*, their *methodology*, and their *normative connotations*. For each dimension, it contains guiding questions as well as certain ideal types¹ that facilitate the analysis of conceptions found in the literature (see tables Table 1, Table 2, and Table 3).

With regard to the *challenge of scope* one may classify concepts of competition according to (1) who the competing actors in the concept are, and (2) what these actors are competing for (see Table 1). Regarding the first issue, some concepts, particularly in anthropology, focus on competition among individuals, whereas others are primarily concerned with competition between entities on higher ontological levels. Examples include groups in theories of democracy as a competitive process (Schumpeter, 1994 [1943]) or nation states in the discussion about the 'race to the best location' (e.g. Kapeller *et al.*, 2019). The processes of competition on these different levels may be interdependent and affect each other. For instance, rules that policy makers implement on the national level to ensure the competitiveness of their country might foster competition among individuals on the labor market. Yet, the mechanisms operating on each particular level are likely to be different and it seems helpful to explicate the concrete set of competing actors when different concepts of competition are compared. The ideal types in Table 1 offer a first inspiration, although they should be thought to span a continuum on which actual concepts are to be aligned. Moreover, while the examples in the table can

¹ The notion of "ideal types" is often associated with Max Weber, where it stands for a condensed, abstract concept that bears typical features of certain empirical phenomena, which, however, are not necessarily found in reality as such. Our use of the term bears some similarity with Weber's concept insofar as we consider ideal types to be the most definite positions in the categories

we analyze. However, they are not the abstract condensation of our own theoretical work. Rather, they correspond with concrete concepts of competition in the literature which we consider to be good examples of extreme positions in the spectrum of the relevant categories.

be clearly identified as either a micro or a macro perspective, many scholars consider their concepts of competition to be applicable on different levels. The second distinction refers to what the actors are competing for. The related ideal types, again, span a continuum on which concrete concepts can be located. An essential distinction here is between *universal* and *particular* concepts. While the former consider competition to be a

universal logic that is underlying processes and dynamics in basically all relevant social fields, the latter applies to concepts that focus on competition in singular fields, such as economic competition for commodities. Actual conceptions may then be placed in the continuum spanned by these two extreme positions.

Table 1. The analytical framework addressing the challenge of scope

Challenge of scope			
Guiding question I	Who is competing?		
Ideal types for GQ 1	<i>Competition among individuals</i>	<i>Competition among groups</i>	<i>Competition among states</i>
	Individuals compete with each other for the object of competition.	Groups compete with each other for the object of competition.	Nation states compete for the object of competition.
Examples	<i>In a beauty contest, individuals compete against each other for the prize (Tauschek, 2013).</i>	<i>In political science, democracy is discussed as a form of competition between parties for the voters' favor (Schumpeter, 1994 [1943]).</i>	<i>Member states of the EU compete for the settlement of firms within a 'European race for the best location' (Kapeller et al., 2019).</i>
Guiding question II	What is competed for?		
Ideal types for GQ 2	<i>Universal</i>	<i>Particular</i>	
	Competition is ubiquitous and always follows the same logic in different social fields. That means, there is a ubiquitous competition for a variety of goods in numerous social fields.	Competition is considered to operate only in particular areas and its functioning is context-dependent. That means the competitors compete only for a well-defined subset of goods within a given field.	
Examples	<i>For Pierre Bourdieu, competition is a universal principle operating in all social fields.</i>	<i>While classical economists studied competition for commodities, some sociologists and anthropologists such as Markus Tauschek focused on competition for social goods, e.g. in the form of beauty or music contests.</i>	

The blueprint summarized in Table 2 addresses the *challenge of methodology*. This challenge is concerned with the methods applied in different analytical accounts on competition (e.g. statistics, dynamical systems modeling, computer simulation, participant observation, interviews etc.) and its epistemological orientation, which refers to what is accepted as an adequate explanation. In a first step, one should ask whether the concept of competition explicitly or implicitly suggests a particular methodology for its analysis. To facilitate such meta-theoretical comparisons, the set of ideal types for the first guiding question draws on Weisberg's (2007) distinction between *model-based* and *abstract-direct* analysis.

In the first case, competition is investigated by first creating an artificial surrogate for the actual system under investigation – a model. This model is then analyzed and, in a third step, related to the system under investigation to derive statements about the latter. This approach is typical for many schools in economics, but less common in, for instance, anthropology: here scholars do not develop models that they investigate *instead* of their actual target system, but rather focus on a *direct* analysis of the target. Weisberg calls this strategy *abstract-direct* analysis since while it also involves abstraction it is – unlike modeling – *directly* concerned with the target system.²

² The classical example is the construction of the periodic table in chemistry by Dmitri Mendeleev. The extent to which Weisberg's distinction is also applicable

within cultural and social studies has not been discussed extensively and should be subject to further investiga-

The second guiding question addressing the *challenge of methodology* seeks to explicate the epistemology underlying a given concept of competition by asking how the concept means to derive new knowledge about the competition investigated. The ideal types refer to the different modes of explanations dating back to Elster (1983). He distinguishes between explanations that explicate the motives of the parties involved ('hermeneutic explanations'), explanations geared towards the explication of causal mechanisms ('causal explanations'), and explanations that work by identifying the function a certain process is serving ('functional explanations'). While the latter are often the goal of anthropological studies using concepts from grounded theory, functional explanations have been prominent in parts of

Austrian (e.g. Hayek, 1969) or institutional economics (c.f. Wilber and Harrison, 1978), and causal explanations are regularly aspired by scholars working in the field of evolutionary economics (c.f. Witt, 2014). Many disagreements popping up in applied work can be traced back to different methodological orientations on the epistemological level since the latter usually come with very different quality standards. Unfortunately, meta-theoretical assumptions, such as what kind of explanation is aspired, are seldomly articulated explicitly. This aggravates an interdisciplinary triangulation. Yet, by explicating these differences the present framework allows to identify the ultimate sources of differences between different concepts (Graebner and Strunk, 2020).

Table 2. The analytical framework addressing the challenge of methodology

Challenge of methodology			
Guiding question I	What kind of methods are suggested for the study of competition?		
Ideal types for GQ 1	<i>Model-based analysis</i>	<i>Abstract-direct analysis</i>	
	Scholars represent their target system and competition through a model, analyze the model and make conclusions based on the model analysis.	Scholars describe competition in their target system and base their conclusions on this description without relying on a model.	
Examples	<i>In many economic paradigms, one regularly sets up a mathematical model, proves theorems and relates these results to the target system.</i>		<i>Much of the current work in social and cultural studies describes the behavior of people and derives more abstract claims from this description directly without building models.</i>
Guiding question II	What kind of explanations does the concept aspire?		
Ideal types for GQ 2	<i>Hermeneutic explanations</i>	<i>Causal explanations</i>	<i>Functional explanations</i>
	The goal of the analysis is to understand the role competition plays for the decision making of the actors involved.	The goal is to identify causal mechanisms.	The goal is to identify the function competition is playing.
Examples	<i>A grounded theory approach to competition in housing would start by interviewing or observing people searching for housing to identify how competition affects them.</i>	<i>In many parts of evolutionary economics, scholars are interested to identify the root cause for the effect of competition.</i>	<i>Hayek explains the emergence of a competitive market economy via its superior role as an economic coordination device.</i>

Finally, addressing the *challenge of normativity* requires one to explicate the academic, political and socio-historical context in which the concept has been developed (see Table 3). It is often illuminating to ask whether a particular approach to study competition implies a normative connotation of competition. Here one may distinguish two ideal types, which again span a continuum on which actual concepts can be aligned: On the one side

are *descriptive* concepts, where the authors were driven mainly by the desire to describe competition and less by the wish to derive policy implications. On the other side, *prescriptive* concepts are inherently normative and im- or explicitly suggest certain avenues of reform. For instance, Hayek (1969) used his theory of competition as a discovery process to reject the attempt of Lange (1936), who advocated a socialist planning board based

tion. We are, nevertheless, convinced that this distinction helps to explicate methodological differences between concepts of competition.

on his work. Neither of the two concepts can be properly understood without the explication of the political debate in which they were developed. Once the implicit value judgements have been worked out, those

Table 3. *The analytical framework addressing the challenge of normativity*

Challenge of normativity			
Guiding question I	Does the concept imply a normative connotation of competition?		
Ideal types for GQ 1	<i>Descriptive intention</i>	<i>Prescriptive intention</i>	
	The concept rests upon descriptions and comes without normative implications for policy and behavior.	The concept implies certain policies and institutions in reality, which would, if implemented, have beneficial or undesirable societal implications.	
Examples	<i>The classical General Equilibrium Models were – before the introduction of the welfare theorems – meant as purely descriptive means to study competition between economic actors.</i>	<i>Adam Smith considers competition as a characteristic of his preferred system of natural liberty, which is why the term is positively connotated.</i>	
Guiding question II	If the concept is normative, how is competition evaluated?		
Ideal types for GQ 2	<i>Negative evaluation</i>	<i>Ambiguous</i>	<i>Positive evaluation</i>
Examples	<i>Wetzel (2013) criticizes the role of competition as a comprehensive governing principle of human conduct in neoliberal contexts.</i>	<i>Rosa (2006) points to positive as well as destructive consequences of competition.</i>	<i>For Hayek (1969), competition “discovers facts that would otherwise remain unknown” and is essential for economic success.</i>

The three blueprints as summarized in tables Table 1, Table 2, and Table 3 can now be used to compare different conceptions of competition with each other.

3 Conceptions of competition in the light of an analytical framework

This section applies the analytical framework introduced above to selected contributions in the literature in order to illustrate its usefulness. The section is structured according to the three challenges and their respective guiding questions.

3.1 Scope of competition

3.1.1 Who is competing?

First theoretical concepts dealing explicitly with competition emerged during the 18th century in the field of Political Economy (comprising much of what today is separated into economics, philosophy, political science and sociology). These concepts were mainly concerned

concepts that imply a prescriptive intention can be classified more precisely according to how positive or negative their view on competition is.

with competition *among firms and/or individuals*. But although the wording was different, macroeconomic theories of the time also referred to competition, yet on the level of nation-states: mercantilism, for instance, was characterized by an agonist understanding of international trade and suggested that countries keep most of the value-creating activities within their own boundaries. Until today, theories of competition in economics (and political science³) continue to be concerned with competition among individuals and/or firms, but competition among nations is now recognized more explicitly, particularly in debates about the ‘race to the best location’ (e.g. Kapeller *et al.*, 2019), where the competition among countries for the settlement of wealthy individuals and firms is at center stage of the attention. In social and cultural studies, the focus on theories of competition among individuals is more pronounced, although, as in economics, a remarkable variety regarding the levels on which competition has been discussed exists. On the one hand, Simmel’s influential conceptualization of competition as an indirect fight in which the

³ In the US-American system the distinction between ‘international relations’, and ‘political science’ emerged, with the latter being more concerned with national and sub-national, and the first with international political

processes. Not surprisingly, theories of competition from the two fields had the corresponding foci. Outside the US, both fields usually fall under to name ‘political science’.

distribution of a scarce good between two or more parties is managed by a third party, was concerned mainly with individuals. The same holds true for more recent approaches in sociology or anthropology that study competition in love relationships or sports (Wetzel, 2013) or competitive formats such as beauty or music contests (Tauschek, 2012, 2019). On the other hand, historians such as Jessen (2014) or Hölkeskamp (2014) or sociologists such as Rosa (2006) or Werron (2014a) point to the applicability of the concept to different analytical levels, ranging from a micro perspective on the everyday life of individuals to competition among organizations or states (Werron, 2012).

3.1.2 What is competed for?

With regard to the question what the players are competing for, an ongoing expansion of the scope of competition considered can be observed: early concepts, referring to competition for commodities, were later complemented by concepts of competition for non-commodified goods, such as *prestige*, *recognition* or *attention*, yet all of them remained focused on one particular area of application. The late 20th century brought forth *universal* concepts of competition, which claim the applicability of the same concept of competition to all fields of social life.

The main object of competition for classical economic theorists were commodified goods. Mill, for instance, was very keen about restricting the scope of applicability of his theories of competition to the *economic realm*, where the distribution of material goods was of central importance. This focus was not limited to the field of economics: in *substantivist economic anthropology* people such as Karl Polanyi, George Dalton, or Paul Bohannon studied how different societies organize their economy to ensure provision and satisfaction of material needs and examined the role of competition for the distribution of the resources involved (Polanyi, 1977, p. 12). Initially, a similar scope can be found in what was going to be birth of *economic sociology*, i.e. in Max Weber's work "economy and society" (1978 [1922]). Yet, Weber already anticipated a broader scope when referring to competition as a "peaceful attempt to attain control over opportunities and advantages which are also desired by others" (Weber, 1978 [1922], p. 38). Despite his clear focus on economic activities, Weber also pointed to other social contexts in which competition may occur.

Weber's contemporary, Georg Simmel, shifted the analysis of competition towards the social realm and focused on competition for *social goods*. He studied this form of competition in various contexts, reaching from trading to love relationships and sports. A slightly different route for the expansion of competition research to non-economic fields was taken by *formal economic anthropologists* such as Cyril Belshaw, Richard Salisburg, Fredrik Barth or Harold K. Schneider who followed a neoclassical economic approach by studying social life in non-western societies as characterized by economic principles and as social exchange. Thus, also intangible, social goods, such as recognition, honor, respect, love and prestige were understood as possible objects of competition. Today, scholars continue to investigate competition in different fields of social life and consider a wide range of scarce goods that might be at stake, including symbolic and social goods (Rosa, 2006, p. 86; Tauschek, 2012; Hölkeskamp, 2014, p. 33; Jessen, 2014). One of the key characteristics of these recent approaches is, however, that, instead of attempting a general theory of competition, they point to the specificity of competition in different contexts (Nullmeier, 2002; Tauschek, 2012, 2013).

This is different for concepts of *universal competition*, which were popularized by scholars such as Gary Becker in economics and Pierre Bourdieu in sociology. It was in the 1970s when Gary Becker (and partly his fellow economists George Stigler and James Buchanan) expanded the field of economic research. Becker laid the foundations for the application of economic methodology on a vast variety of issues as crime, family, discrimination, marriage, death penalty and human capital, all of which were considered to be characterized by the same principle of competition. In his Nobel Lecture Becker considers competition as a universal coordination mechanism not confined to particular areas of application. Although using a different methodology, Pierre Bourdieu likewise argued that every social field is characterized by an economic, universal principle. In each field, there is competition for profits and a monopoly over the specific capital of the field (Bourdieu, 1992, p. 17). So, Bourdieu's concept of competition is universal insofar as he sees every field, including the field of cultural production (Bourdieu, 1993), the academic field (Bourdieu, 1992) or even a sexual field (Green, 2008; Illouz, 2012, pp. 51–58), as characterized by a competitive rationality.

3.2. Methodological dimensions

3.2.1. What kind of methods for the study of competition are suggested?

With respect to methodological orientations in terms of Weisberg's (2007) differentiation between *model-based* and *abstract-direct* analysis, one can notice a growing interest in *models* of competition especially in economics – a trend that is not surprising given the rise of 'model-based science' in a wide range of disciplines (e.g. Magnani and Bertolotti, 2017). The archetype of a model-based approach to competition is the theory of *perfect competition* in economics. It is no coincidence that it was developed by trained mathematicians such as Gerald Debreu (Debreu, 1991; Weintraub, 2002). By assuming utility and profit maximizing of consumers and producers, and via the concept of economic equilibrium it was possible to create mathematical models that could be studied analytically. The epistemological interest was not directed towards the correctness of the assumptions. The key objective was the derivation of mathematical results within the sphere of the models. Or, in the words of Debreu (1986): "an axiomatized theory has a mathematical form that is completely separated from its economic content" (p. 1265).

The absence of a clear and pre-defined target system for these models, especially in the case of the mathematically defined concept of (perfect) competition, facilitated the application to a wide range of topics, such as 'marriage markets', 'friendship markets' or even 'life markets' (see section 3.1). This applies not only to the mainstream of economics, but also many critiques of the mainstream. For instance Anwar Shaikh (2016) criticizes the neoclassical approach to competition and proposes an alternative approach termed 'real competition'. Nevertheless, he also follows a mainly model-based approach, only the formalism of his models differs considerably to the neoclassical ones. While this "mathematization" of economics (Debreu, 1991) is a development of the 20th century, already classical economists such as John Stuart Mill considered the economic methodology as oriented towards the analysis of the laws of production and viewed economics as an abstract science with an a priori method (Mill, 2000 [1844]), in which political economists must make assumptions to draw deductive conclusions.

This does not mean, however, that economists have analyzed competition exclusively through models:⁴ paradigms such as original institutionalism, the German Historical or the Regulation School have been very skeptical of the use of models and focused on what Weisberg (2007) describes as *abstract direct analysis* (see already Wilber and Harrison, 1978). But despite these important exceptions, the model-based approach to study competition is widespread in economics.

The situation seems to be reversed in other social sciences and humanities, where also both model-based and abstract-direct analysis are practiced in different paradigms, but where the latter is much more prominent. One approach that stands out methodologically is Simmel's theory of competition as an indirect fight. Simmel's strategy was to take examples from everyday life and to abstract from the concrete cases by looking for analogies between them (Duk-Yung, 2002, pp. 488–489). Importantly, it is not the meticulous description of how people deal with competition in concrete situations that was at the core of his interest. Rather, his observations led to an abstraction which served as a basis for the deduction of logical consequences, e.g. the fact that opponents do not use their energy to harm each other, but to perform better than the opponent (Simmel, 1995 [1903], p. 224), which he then applied to other social fields without having studied these empirically. Thus, Simmel's approach is situated somehow in the middle of the two ideal cases described in Weisberg (2007). Nevertheless, most of present-day approaches in social and cultural studies study competition in an empirical fashion that can be classified as *abstract direct representation*. It is of little surprise that scholars stressing the specificity of various forms of competition in different contexts also tend to prefer concrete empirical case studies to understand the entanglements of structural frameworks and forms of institutionalization, of social systems of value, and of everyday practices (Tauschek, 2012; Hölkeskamp, 2014; Tauschek, 2019). Thus, one can summarize that both model-based and abstract-direct approaches to competition exist, yet that different paradigms – and not disciplines as a whole – tend to develop a strong preference of one of them.

3.2.2. What kind of explanations does the concept aspire?

vs. the disequilibrium models based on bounded rationality in evolutionary economics).

⁴ Also, there are important differences between the kind of models used in different paradigms (e.g., the maximization-cum-equilibrium models in the mainstream

Another way to distinguish the methodological approaches to competition is by reference to the *kind of explanation* one aspires. This is helpful since the different kind of explanations come with very different standards of evaluation and much debate among scholars from distinct disciplines can be traced back to these differences. Most approaches to study competition in cultural studies, for instance, aspired what Elster (1983) classified as *intentional* (or ‘hermeneutical’) *explanations*. Here, the aim is to describe what the actors involved wanted to achieve when executing a certain behavior, e.g. presenting themselves in a certain manner to improve their chances to be successful in a competitive context. Explanations may also involve the description of processes of how the intentions have actually been formed in the first place, e.g. through biographical experience, as well as beliefs the actors hold about the implications of their actions (e.g. Tauschek, 2014). Aspiring an intentional explanation is aggravated by the fact that the reasons of people for doing something, and their desires about future states, are usually unobservable. Scholars, therefore, use methods such as interviews or participant observations to craft their explanations.

In contrast to these attempts to explicate intentions underlying competitive behavior, specific paradigms within the social studies (such as analytical sociology) and economics (especially in some parts of evolutionary economics, e.g. Witt, 2014) aspire *causal explanations*, i.e. explanations that identify the causes for the phenomena to be explained. Such explanations might explicate the historical factors that have led to the emergence of certain forms of competition, such as competition for the favor of an anonymous audience (Werron, 2014a). Other questions in this line of explanation revolve around how competition aggregates individual preferences and how the institutions that govern competition impact on the distribution of the goods actors are competing for.

Aside from causal explanations, *functional explanations*, which explain a phenomenon by reference to the function it fulfills, can also be found in economics and other social sciences. In “original” institutionalism, institutions are often explained via the functions they perform in favor of certain interest groups and the new transaction cost literature explains the emergence of social organizations via their functionality in facilitating transactions among individuals (Jackson, 2002). Finally, the argument of Hayek (1985), according to which competitive markets have emerged because they represent “a more efficient allocation of societal resources than any

design could achieve” (p. 63-64), is also characterized by functionalist reasoning.

In some instances, the line between different kinds of explanations is hard to draw. Nevertheless, there is a tendency of certain disciplines and schools within these disciplines to prefer one of these types of explanations. As in the case of the model-based vs. abstract-direct explanation one observes that the different kinds of explanations of competition are scattered through the disciplines and that differences between paradigms *within* the disciplines are more informative than differences *between* disciplines as a whole.

3.3. Normative connotations and historical context

3.3.1. Does the concept imply a normative connotation of competition?

As indicated in section 2, it is helpful to differentiate between descriptive and prescriptive concepts of competition. This is, however, not always easy since work that has clear normative implications is often presented as if it was purely descriptive (e.g. Erhard and Jensen, 2017) and some have questioned the possibilities of value-free approaches altogether (Robinson, 1962; Kuhn, 1970; Schumpeter, 1994 [1954]; Foley, 2010). This aggravates the classification of research as being either descriptive or prescriptive (Davis, 2016).

Especially in economics, numerous studies of competition consider themselves to be purely descriptive. This dates back to classical economics: economists often declared some of their contributions as *descriptive*, and others as *prescriptive*, depending on the area of application. John Stuart Mill, for instance, used the concept of competition to arrive at a more accurate and rather descriptive analysis of the process of price formation in his thoughts on the sphere of production. At the same time, his analysis of the sphere of distribution is based on ethical considerations about justice and, thereby, is essentially normative and prescriptive. Similarly, in the early days of neoclassical economics, Leon Walras differentiated between economics as *pure science*, *applied economics* as a more practical approach to what is useful, and *social economics* concerned with justice and ethics, the latter being obviously prescriptive (Walras, 2003 [1874]). However, normative considerations were not only present in Walras’ studies of ethics but at the very base of his studies of “pure economics” as well, which were led by the attempt to bring together liberal and socialist economic ideas (Jaffé, 1965; Koppl, 1995).

The quest of delineating purely descriptive theories of competition is not particular for economics, although the motivations to take such an approach are different in other disciplines: many of the current conceptualizations of competition in the humanities, for instance, call for an understanding of competition from the actors' point of view (i.e. aspiring *intentional* or *hermeneutic* explanations, see section 3.2.2). This means that theorists do not take a clear stance themselves, but rather remain open for positive and negative consequences of competition as they appear from the perspective of different actors involved in dynamics of competition (Tauschek, 2013; Hölkeskamp, 2014; Jessen, 2014; Werron, 2015).

3.3.2. *If the concept is normative, how is competition considered?*

In economics, the concept of competition was initially closely connected to the historical background of the (political) liberal credo and was, therefore, characterized by a positive assessment of competition as such. Adam Smith, for instance, argued that an increase in competition among producers prevents monopoly rents and causes prices to approach the natural price: “the price of monopoly is upon every occasion the highest which can be got. The natural price, or the price of free competition, on the contrary, is the lowest” (Smith, 1976 [1776], p. 56). Hence, free competition represents an advantage for consumers and therefore, in Smith's understanding, for society in general (see Werron, 2014b, pp. 67–68). Similarly, Mill, when criticizing landlords and the gentry (notably in Mill, 2001 [1844]), viewed competition as a means to protect the weak (Mill, 1909 [1848], p. 191). He stressed the benefits of competition as a governing principle of contracts in 19th century societies, but also pointed to negative consequences of increased competition for justice and for social cohesion (see also Dennis, 1975).

In the 20th century, Friedrich Hayek takes a clear pro-market and pro-competition stance. Being a strict free-market advocate and criticizing centralized planning of socialist and collectivist economic systems, he described competition as a “process of discovery”, i.e. a process that “discovers facts that would otherwise remain unknown or, at least, unused” (Hayek, 1969, p. 249; translation C.G.). This strong claim for more competition also links Hayek to ordoliberal economists such as Walter Eucken (2004 [1952]) and more recently Lars Feld (2000), who uphold competition as a politically preferable normative principle. To appreciate (and criticize) these contributions of Hayek, Eucken and Feld, a consideration of their normative vantage point

is important, especially since they refer to – allegedly – descriptive results such as the two welfare theorems of neoclassical economics to justify liberalization processes (e.g. Feld, 2000; Vanberg, 2001).

Theoretical accounts that imply an affirmative view of competition can also be found outside economics. For Simmel, for instance, competition is characteristic of modernity and allows to resolve social struggles under conditions of scarcity without direct conflict. Moreover, since competitors may acquire the scarce goods only via a high performance according to the criteria of the involved third party, it may also boost the performance of values – at least if the criteria imposed by the “third party” correspond with some more general “social values” (Simmel, 1995 [1903], p. 225). Furthermore, Simmel considered competition to have an integrating and socializing effect insofar as competitors need to develop an understanding of the intentions and of the values held by the third party in charge of the distribution of scarce goods (Simmel, 1995 [1903], p. 227; see also Gane, 2019).

Others were more explicit in stressing the negative implications of competition. French utopian socialists such as Fourier or Sismondi pointed to the negative consequences of a “system of competition” for workers and French cities in the early 19th century (Fourier, 1996[1808]). Later, Karl Marx and Friedrich Engels highlighted the negative impacts of free competition as core part of the capitalist mode of production. On the basis of empirical studies among the working class in England, Engels pointed to the negative effects of competition on a micro level (Engels, 1969[1891]; see also Kurz, 2020) since it leads to a “battle of all against all” (Engels, 1969[1891], p. 73). Marx described the consequences of technological progress and a competitive logic in his concept of objectification and alienation (Marx, 1959[1844]; see also Wendling, 2009).

Among sociological and anthropological accounts of competition there are also some positions that, although acknowledging positive effects of competition in the era of modernity, see the rising importance and changing forms of competition in late modernity as problematic. Among these are Nullmeier and Rosa who both stress that recent forms of competition create insecurity and a pressure for individual performance (Nullmeier, 2002, p. 172; Rosa, 2006; Davies, 2017). In the context of neoliberal ideologies, Nullmeier, Davies as well as Rosa argue that often competition is no longer a means to achieve an aim externally defined, but rather has become an end in itself (Nullmeier, 2002, p. 173;

Rosa, 2006, pp. 94–95). Rosa therefore calls for a restriction of competition in various fields of social life (Rosa, 2006, pp. 102–104), an argument that has been taken up by sociologists like Wetzel (2013, p. 270) who criticize the formative role of competition as comprehensive governing principle of human conduct.

4 Discussion

This section consolidates previous findings: first, we summarize commonalities of competition research across and within academic disciplines to substantiate the claim that there is potential for an interdisciplinary study of competition; second, we discuss differences of conceptualizations of competition within and between disciplines; third, we elaborate on the interdependencies between the different categories that we have introduced above.

4.1. Commonalities of competition research

While the focus of this paper has so far been on differences between different concepts of competition, it is also necessary to highlight some central commonalities of competition research. First, across all paradigms and disciplines in the social sciences and humanities, competition is considered to be a *social process*, i.e. a process in which at least two actors are involved, and that takes place within human-made institutions (i.e. formal and/or informal rules). Second, a state of *scarcity* of the object the parties are competing for is a necessary condition for competition to take place. However, neither is the object of competition necessarily a tangible object, nor is the scarcity necessarily given naturally. For instance, if parties are competing for social status, the object of competition (‘status’) is intangible and status goods are often not naturally scarce but their scarcity is socially constructed, for example through the construction of public comparisons via rankings (Witt, 2010; Werron, 2015, p. 200). Or, while in principle, there are enough natural resources in the world to satisfy basic needs for anybody, the rules determining the distribution of these resources make them scarce for some people who may then compete for these resources (see already Gregori, 1987). Third, the scarce good is necessary a *rival* good, i.e. there is a conflict of interest among the parties involved concerning the distribution of the goods. This means that the expansion of the ‘possession’ of the good by one party happens at the expense of the other parties involved.

Aside from these four commonalities, there are further common features among concepts concerned with similar areas of application from the same discipline. For instance, in large parts of economics the mechanisms according to which the scarce good gets distributed work via a price mechanism based on the ability and willingness to pay, such that the good gets allocated to those parties that are willing to pay a certain (or the highest) price. In contrast, in the social and cultural sciences, the focus usually is on the formal or informal institutionalization of competition, on the criteria which are defined as relevant, and on the social implications of competitive formats. The functioning of price mechanisms is usually of minor interest. Yet, in all cases competition is not the only, but rather one among different processes that can be used for the distribution of the common good. This leaves room for considerable debate, not only about how competition should be institutionalized (e.g. according to which criterion and on what level of formalization), but also about whether competition is the right way to distribute the scarce good at all.

4.2 Differences between and within disciplines

One might have expected differences *between* disciplines to be more substantial than differences among different research programs *within* the same discipline. At least nowadays, however, this does not seem to be the case: while initially the in political economy was confined to competition for commodities and sociology, on the other hand, focused on competition for non-commodified goods in the social realm, already in the first half of the 20th century a consideration of commodities can also be found in economic sociology (e.g. in the work of Max Weber) and parts of anthropology (e.g. in the work of substantivist economic anthropologists). Disciplinary boundaries with regard to scope are further blurred when it comes to universal understandings of competition, which is an important topic in, *inter alia*, sociology (Bourdieu) and economics (Becker). Besides these attempts to transgress borders between the economic and the social realm, we still find restrictions in the scope of competition research in the work of mainstream economics as well as in current sociology and anthropology, where social and economic competition are rather viewed as distinct processes which are not related to one another.

A similar state of affairs presents itself when it comes to the dimension of *methodology*: at first sight, one finds a clear preference for model-based theorizing in economics on the one hand, and for abstract direct analysis (focused on concrete cases) in the social and cultural studies on the other hand. A closer inspection, however, suggests a more nuanced assessment: first, many economists outside the economic mainstream criticize this obsession with models; second, even among the scientists that agree on using models, there is considerable heterogeneity in the kind of models used; third, although there is a clear overall preference of social and cultural studies to study competition based on the observation and analysis of concrete competitive institutions, situations and actors, this is not valid for all sociological work on competition, e.g. the concept of Georg Simmel which is characterized by at least some model-like features. Regarding modes of explanation, there is an overlapping interest of some sociological and economic approaches in causal explanations, while hermeneutic explanations tend to be confined to anthropological and sociological research. Functional explanations tend to be most common in economics and sociology. But again, there are numerous examples for an exception to this rule, as illustrated by the relevance of hermeneutic explanations in original institutionalist economics (e.g. Wilber and Harrison, 1978).

In terms of the normative orientation of competition theories, a similar complexity can be noticed. Declaratively descriptive approaches can be found in economics as well as in social and cultural studies. When it comes to explicitly normative approaches, there is a tendency of economic theories to point to the advantages of competition, while social sciences often criticize social implications of the predominance of a competitive logic in different fields of life. Again, however, exceptions to this classification abound, for example, Marxist economics or Georg Simmel's account of competition as a peaceful fight.

In all, the comparative analysis suggests that while there are important and noteworthy differences *between* disciplines, there are also considerable differences *within* disciplines, with different research programs within the same disciplines playing a key role. At times, there are surprising commonalities of certain features of concepts of competition across different disciplines. For instance, qualitative sociologists and evolutionary-institutional economists share more epistemological and

methodological convictions than institutional and neo-classical economists. This applies to all three dimensions, i.e. scope, methodology and normative connotation, and suggests that competition is indeed a promising subject for interdisciplinary work.

4.3 Connections between scope, methodology and normative position

There are close connections between the aspects discussed in section 3. For instance, the shift of the scope in the concepts of competition from commodities to non-commodified goods - and, thereby, the shift from markets to other social realms as prime subjects of investigation - was connected with a change of disciplines interested in the topic of competition, as well as a change in tools used to study it. At the same time, new methodological innovations themselves had an impact on the scope of competition research: the use of abstract models to study competition in economics allowed to expand the scope of competition since it was no longer restricted to a certain reference system. This suggests a close relationship between scope and the methods of analysis.

An intricate relationship can also be observed regarding the normative and methodological dimension of competition research: strongly model-based approaches - such as general equilibrium theory - were often developed as purely descriptive tools. Later, scholars also applied them in a normative way. Anthropological and sociological approaches studying the ways in which competition is realized in everyday practice from the perspective of different actors, on the other hand, necessarily have to deal with evaluations of positive and negative effects of competition from the perspectives of different actors. These hermeneutic approaches do not leave much room for the researchers' normative positions, but rather have to remain open for different, and sometimes surprising, assessments of competition.

Finally, the relationship between the scope of research and the normative connotations associated with it is also worth being investigated further: it is precisely the expansion of the research on competition as put forth by scholars such as Gary Becker that is criticized on a normative ground as an "economic imperialism" (Mäki, 2009) and analyzed as a process of becoming hegemonic of an "economic imaginary" (Jessop, 2013; Sum and Jessop, 2013) of perfect market efficiency in the transmission of economic knowledge into political and

social practice. While such a critique of economic imperialism clearly identifies the direction of movement of scientific knowledge from the economic discipline to social and cultural disciplines and assumes a clear-cut disciplinary separation, the previous discussion also shows that the distinct disciplines actually share many focal points of discussion (see also Altreiter *et al.*, 2020).

5 Summary and outlook

This paper was meant as a first attempt to lay a basis for a comparative analysis of concepts of competition across various disciplines, and an effective interdisciplinary analysis of the phenomenon of competition in the real world. It introduced an analytical framework that facilitates the comparison of different conceptualizations of competition along their scope, their methodological orientation, and their normative connotation. The usefulness of this framework was then illustrated by applying it to selected contributions of influential scholars across disciplines.

Despite the preliminary insights we have brought forth, the present endeavor necessarily remains incomplete in a number of ways: first, although the paper is meant as an interdisciplinary contribution, most of the authors discussed come from economics, sociology, political science and cultural studies. Future research might complement this contribution by applying the framework to further disciplines, such as philosophy, social psychology or biology. Likewise, since our focus on some of the most influential theories of competition has created a strong gender and ethnic bias, further investigations might explore approaches beyond this androcentric perspective, and include approaches dealing with competition – and surrounding phenomena – outside the framework of (white) European academic preoccupations.

Second, we did not touch upon the concrete instrumentalization of competition within broader ideological and political movements. Biologist and fascist ideology often refer to competition as a means to ensure the ‘survival of the fittest’ and to justify their racist policy proposals. There is a long-standing academic history behind such interpretations, which could become the subject of future research.

Finally, the analytical categories presented here might usefully be expanded. As indicated above, a combination of the categories can be useful for highlighting the relationship between scope, methodological approach, and normative connotation. Besides deepening each of

these categories, it could also be fruitful to supplement these lines of analysis with others, which we could not elaborate in this paper. These include the distinction between conceptions that conceive competition as a ‘state’ versus those that conceive it as a ‘process’, the distinction between competition as something ‘natural’ versus something ‘social’, as well as the demarcation of competition from other categories such as ‘rivalry’ or ‘contest’. Notwithstanding this inevitable incompleteness, the paper made a constructive proposal of consolidating work on competition from various disciplines and, thereby, to open up a genuinely interdisciplinary investigation of the concept.

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References

- Altreiter, C., Gräbner, C., Pühringer, S., Rogojanu, A. and Wolfmayr, G. (2020) ‘Theorizing Competition: An interdisciplinary approach to the genesis of a contested concept’, *SPACE Working paper series*, 3.
- Backhouse, R. (1990) ‘Competition’. In Creedy, J. (ed) *The Foundations of Economic Thought*, Blackwells, 58–86.
- Barney, J. (1991) ‘Firm Resources and Sustained Competitive Advantage’, *Journal of Management*, **17**, 99–120.
- Bouncken, R.B., Gast, J., Kraus, S. and Bogers, M. (2015) ‘Coopetition: a systematic review, synthesis, and future research directions’, *Review of Managerial Science*, **9**, 577–601.
- Bourdieu, P. (1992) *Homo academicus*, Frankfurt am Main, Suhrkamp.
- Bourdieu, P. (ed) (1993) *The field of cultural production. Essays on art and literature*, Cambridge, Polity Press.
- Callon, M. (ed) (1998) *The Laws of the Markets*, Blackwell Publishers.
- Davies, W. (2017) *The limits of neoliberalism. Authority, sovereignty and the logic of competition*, Los Angeles et al., SAGE.
- Davis, J.B. (2016) ‘Economists’ Odd Stand on the Positive–Normative Distinction’. In DeMartino, G. F. and

- McCloskey, D. N. (eds) *The Oxford handbook of professional economic ethics*, New York (NY), Oxford University Press, pp. 199–218.
- Debreu, G. (1986) 'Theoretic Models: Mathematical Form and Economic Content', *Econometrica*, **54**, 1259.
- Debreu, G. (1991) 'The Mathematization of Economic Theory', *American Economic Review*, **81**, 1–7.
- Dennis, K. (1975) *"Competition" in the History of Economic Thought*.
- Duk-Yung, K. (2002) *Georg Simmel und Max Weber. Über zwei Entwicklungswege der Soziologie*, Wiesbaden, VS Verlag.
- Elster, J. (1983) *Explaining technical change. A case study in the philosophy of science*, Cambridge, Oslo, Bergen, Stravanger, Tromsø, University Press; Universitetsforlaget.
- Engels, F. (1969[1891]) *The condition of the working-class in England in 1844*, Moscow, Panther Edition.
- Erhard, W. and Jensen, M.C. (2017) 'Putting Integrity into Finance: A Purely Positive Approach', *Capitalism and Society*, **12**, Art. 1.
- Eucken, W. (2004 [1952]) *Grundsätze der Wirtschaftspolitik*, Tübingen, Francke.
- Feld, L.P. (2000) 'Tax competition and income redistribution: An empirical analysis for Switzerland', *Public Choice*, **105**, 125–164.
- Foley, D.K. (2010) 'What's wrong with the fundamental existence and welfare theorems?', *Journal of Economic Behavior & Organization*, **75**, 115–131.
- Foucault, M. (2010) *The birth of biopolitics: lectures at the Collège de France, 1978 - 79*. Edited by Michel Senellart, Basingstoke [u.a.], Palgrave Macmillan.
- Fourier, C. (1996[1808]) *The Theory of the Four Movements*, Cambridge, Cambridge Univ. Press.
- Gane, N. (2019) 'Competition: A Critical History of a Concept', *Theory, Culture & Society*, 026327641987824.
- Graebner, C. and Strunk, B. (2020) *Pluralism in economics: its critiques and their lessons*, Johannes Kepler University, Institute for Comprehensive Analysis of the Economy 82.
- Granovetter, M.S. and Swedberg, R. (eds) (2011) *The sociology of economic life*, Boulder, Colo., Westview Press.
- Green, A.I. (2008) 'The Social Organization of Desire: The Sexual Fields Approach', *Sociological Theory*, **26**, 25–50.
- Gregori, T.R. de (1987) 'Resources Are Not; They Become: An Institutional Theory', *Journal of Economic Issues*, **21**, 1241–1263.
- Hartmann, E. and Kjaer, P.F. (2015) 'Special issue: a sociology of competition', *Distinktion: Journal of Social Theory*, **16**, 141–145.
- Hayek, F. A. (1985) *New Studies in Philosophy, Politics, Economics, and the History of Ideas*, Chicago, University of Chicago Press.
- Hayek, F.A. (1969) 'Der Wettbewerb als Entdeckungsverfahren'. In Hayek, F. A. (ed) *Freiburger Studien. Gesammelte Werke*, Tübingen, J.C.B. Mohr, pp. 249–265.
- Hölkeskamp, K.-J. (2014) 'Konkurrenz als sozialer Handlungsmodus - Positionen und Perspektiven der historischen Forschung'. In Jessen, R. (ed) *Konkurrenz in der Geschichte. Praktiken - Werte - Institutionalisierungen*, Frankfurt am Main, New York, Campus, pp. 33–57.
- Illouz, E. (2012) *Why Love Hurts. A Sociological Explanation*, Oxford, Polity Press.
- Jackson, W.A. (2002) 'Functional explanation in economics: a qualified defence', *Journal of Economic Methodology*, **9**, 169–189.
- Jaffé, W. (1965) *Correspondence of Leon Walras and Related Papers*, Amsterdam, North-Holland.
- Jessen, R. (2014) 'Konkurrenz in der Geschichte - Einleitung'. In Jessen, R. (ed) *Konkurrenz in der Geschichte. Praktiken - Werte - Institutionalisierungen*, Frankfurt am Main, New York, Campus, pp. 7–32.
- Jessop, B. (2012) 'Understanding the "economization" of social formations'. In Schimank, U. and Volkmann, U. (eds) *The marketization of society: economizing the non-economic*, Bremen, University of Bremen, pp. 5–36.
- Jessop, B. (2013) 'Recovered imaginaries, imagined recoveries: a cultural political economy of crisis construals and crisis-management in the North Atlantic financial crisis'. In Benner, M. (ed) *Before and Beyond the Global Economic Crisis. Economics, Politics and Settlement*, Cheltenham, Edward Elgar Publishing, pp. 234–254.
- Jessop, B. (2015) 'The course, contradictions, and consequences of extending competition as a mode of (meta-)governance: towards a sociology of competition and its limits', *Distinktion: Scandinavian Journal of Social Theory*, **16**, 167–185.
- Kapeller, J., Gräbner, C. and Heimberger, P. (2019) *Economic polarisation in Europe: Causes and policy options* 99, Linz.
- Kjaer, P.F. (2015) 'Context construction through competition: the prerogative of public power, intermediary institutions, and the expansion of statehood through competition', *Distinktion: Scandinavian Journal of Social Theory*, **16**, 146–166.
- Koppl, R. (1995) 'The Walras Paradox', *Eastern Economic Journal*, **21**, 43–55.
- Kuhn, T. S. (1970) *The Structure of scientific revolutions*, Chicago, Chicago Univ. Press.
- Kurz, H. D. (2020) *Der junge Engels über die „Bereicherungswissenschaft“, die „Unsittlichkeit“ von Privateigentum und Konkurrenz und die „Heuchelei der Ökonomen“*, unpublished manuscript.
- Lange, O. (1936) 'On the Economic Theory of Socialism: Part One', *The Review of Economic Studies*, **4**, 53.
- Mackenzie, D.A., Muniesa, F. and Siu, L. (eds) (2008) *Do economists make markets? On the performativity of economics*, Princeton, NJ, Oxford, Princeton University Press.
- Magnani, L. and Bertolotti, T. (eds) (2017) *Springer Handbook of Model-Based Science*, Cham, Springer.
- Mäki, U. (2009) 'Economics Imperialism: Concept and Constraints', *Philosophy of the Social Sciences*, **39**, 351–380.
- Marx, K. (1959[1844]) *Economic and Philosophic Manuscripts*, Moscow, Progress Publishers.
- Mill, J. S. (1909 [1848]) *Principles of Political Economy with some of their Applications to Social Philosophy*, New York, Bombay and Calcutta, Longmans, Green and Co.
- Mill, J. S. (2000 [1844]) *Essays on Some Unsettled Questions of Political Economy*, Kitchener, Batoche Books.
- Mill, J. S. (2001 [1844]) *On Liberty*, Kitchener, Batoche Books.
- Mirowski, P. and Plehwe, D. (eds) (2009) *The road from Mont Pèlerin. The making of the neoliberal thought collective*, Cambridge, Mass, Harvard University Press.
- Nullmeier, F. (2002) 'Wettbewerbskulturen'. In Müller, M. (ed) *Der Sinn der Politik. Kulturwissenschaftliche Politikanalysen*, Konstanz, UVK, pp. 157–175.
- Polanyi, K. (1977) 'The Economistic Fallacy', *Review (Fernand Braudel Center)*, **1**, 9–18.

- Polanyi, K. (2011) 'The Economy as Instituted Process (1957)'. In Granovetter, M. S. and Swedberg, R. (eds) *The sociology of economic life*, Boulder, Colo., Westview Press, pp. 29–51.
- Pühringer, S. (2018) 'The success story of ordoliberalism as guiding principle of German economic policy'. In Joerges, C. and Hien, J. (eds) *Ordoliberalism. Law and the rule of economics*, Oxford, Portland, Oregon, Hart Publishing an imprint of Bloomsbury Publishing Plc, pp. 134–158.
- Robinson, J. (1962) *Economic philosophy*, London, Watts.
- Rosa, H. (2006) 'Wettbewerb als Interaktionsmodus. Kulturelle und sozialstrukturelle Konsequenzen der Konkurrenzgesellschaft', *Leviathan*, **34**, 82–104.
- Schimank, U. and Volkmann, U. (2012) 'Economizing and Marketization in a Functionally Differentiated Capitalist Society – A Theoretical Conceptualization'. In Schimank, U. and Volkmann, U. (eds) *The marketization of society: economizing the non-economic*, Bremen, University of Bremen, pp. 37–64.
- Schumpeter, J. A. (1994 [1943]) *Capitalism, socialism, and democracy*, London, New York, Routledge.
- Schumpeter, J. A. (1994 [1954]) *History of economic analysis*, New York, Oxford University Press.
- Shaikh, A. (2016) *Capitalism. Competition, conflict, crises*, New York, NY, Oxford University Press.
- Simmel, G. (1995 [1903]) 'Soziologie der Konkurrenz'. In Simmel, G. (ed) *Aufsätze und Abhandlungen 1901-1908*, Frankfurt a. M., pp. 221–246.
- Smelser, N.J. and Swedberg, R. (eds) (2005) *The handbook of economic sociology*, Princeton, N.J., New York, Princeton University Press.
- Smith, A. (1976 [1776]) *The wealth of nations*, Oxford, Oxford University Press.
- Sum, N.-L. and Jessop, B. (2013) *Towards a cultural political economy. Putting culture in its place in political economy*, Cheltenham, UK, Northampton, MA, Elgar.
- Tauschek, M. (2012) 'Wettbewerbskulturen. Eine kultur-anthropologische Problemskizze', *Zeitschrift für Volkskunde*, **108**, 177–197.
- Tauschek, M. (2013) 'Zur Kultur des Wettbewerbs. Eine Einführung'. In Tauschek, M. (ed) *Kulturen des Wettbewerbs. Formationen kompetitiver Logiken*, Münster u.a., Waxmann, pp. 7–36.
- Tauschek, M. (2014) 'Konkurrenz: Ein Handlungsmodus und seine kulturellen Effekte'. In Jessen, R. (ed) *Konkurrenz in der Geschichte. Praktiken - Werte - Institutionalisierungen*, Frankfurt am Main, New York, Campus, pp. 95–118.
- Tauschek, M. (2019) 'Konkurrenznarrative. Zur Erfahrung und Deutung kompetitiver Konstellationen'. In Bürkert, K. u.a. (ed) *Auf den Spuren der Konkurrenz. Kultur- und sozialwissenschaftliche Perspektiven*, Münster, New York, Waxmann, pp. 87–101.
- Vanberg, V. (2001) *The constitution of markets. Essays in political economy*, London, New York, Routledge.
- Walras, L. (2003 [1874]) *Elements of pure economics, or, The theory of social wealth*, London, Routledge.
- Weber, M. (1978 [1922]) *Economy and Society. An Outline of Interpretive Sociology*, Berkeley, Los Angeles, New York, University of California Press.
- Weintraub, E. R. (2002) *How economics became a mathematical science*, Durham, London, Duke University Press.
- Weisberg, M. (2007) 'Who is a Modeler?', *British Journal for Philosophy of Science*, **58**, 207–233.
- Wendling, A. E. (2009) *Karl Marx on technology and alienation*, Basingstoke, Hampshire, New York, NY, Palgrave Macmillan.
- Werron, T. (2012) 'Worum konkurrieren Nationalstaaten?: / What Do Nation-States Compete for?', *Zeitschrift für Soziologie*, **41**.
- Werron, T. (2014a) 'On Public Forms of Competition', *Cultural Studies ↔ Critical Methodologies*, **14**, 62–76.
- Werron, T. (2014b) 'Wettbewerb als historischer Begriff'. In Jessen, R. (ed) *Konkurrenz in der Geschichte. Praktiken - Werte - Institutionalisierungen*, Frankfurt am Main, New York, Campus, pp. 59–93.
- Werron, T. (2015) 'Why do we believe in competition?: A historical-sociological view of competition as an institutionalized modern imaginary', *Distinktion: Scandinavian Journal of Social Theory*, **16**, 186–210.
- Wetzel, D. J. (2013) *Soziologie des Wettbewerbs. Eine kultur- und wirtschaftssoziologische Analyse der Marktesellschaft*, Wiesbaden, VS.
- Wilber, C.K. and Harrison, R.S. (1978) 'The Methodological Basis of Institutional Economics: Pattern Model, Storytelling, and Holism', *Journal of Economic Issues*, **12**, 61–89.
- Wilk, R. R. and Cliggett, L. (2007) *Economics and cultures. Foundations of economic anthropology*, Boulder, Colo., Westview Press a member of the Perseus Books Group.
- Witt, U. (2010) 'Symbolic consumption and the social construction of product characteristics', *Structural Change and Economic Dynamics*, **21**, 17–25.
- Witt, U. (2014) 'The future of evolutionary economics: why the modalities of explanation matter', *Journal of Institutional Economics*, **10**, 645–664.